

REMARKS

Applicants thank Examiner for a careful review of the claims and the previous amendment and response.

Applicants thank Examiner for withdrawing the previous rejections.

Applicants have carefully considered the Examiner's remarks in the current action. In light of the Examiner's remarks, Applicants have amended the claims to indicate that the structure contains a thermoplastic exterior/decorative film layer, a thermoplastic polymer layer, a second thermoplastic polymer layer and a single fiber reinforced thermoset layer in the composite structure. The claims have also been amended to improve consistency and readability. Applicants have also amended claims 37-41 to indicate that the member is a structural component such as a motor vehicle hood, door, trunk, lid or tunnel cover. Support for the amendment to the claim is found in McCollum et al., U.S. Patent Publication No. 2004/0146714 A1 at page 1 and 3 in Paragraphs [0010] and [0030], in figures 5 through 7 and in the original claims as filed. No new matter is added by amendment.

In the Examiner's office communication, the Examiner noted the Request for Continued Examination filed on December 4, 2006 and acknowledged Applicant's amendment and response. The Examiner acknowledges the amendments made and in paragraph's 5 and 6 withdrew the rejections over Higashi et al., U.S. Patent No. 6,818,302 in view of Figge et al., U.S. Patent No. 4,194,938.

The Examiner has made a new rejection under 35 U.S.C. § 103(a) of claims 27-28, 32-36, and 43-49 under 35 U.S.C. § 103(a) over El Bouhnini et al., U.S. Patent No. 4,242,406. In summary, the Examiner asserts that the reference shows the claimed structure and that the structure can be used as a sink or tub. The El Bouhnini et al. structure is asserted to include (1) exterior layer of an acrylic layer, a (2) organic resinous layer and (3) fiber reinforced layer. All of Applicant's exterior layer, thermoplastic layer(s) and reinforced layers are different than that shown in the reference. The claimed structure is different than the El Bouhnini et al. structure in design and construction. El Bouhnini et al. uses a single finish coat with a fiber containing bonding layer and two fiber reinforced layers. Applicants use three thermoplastic layers and a single fiber reinforced layer. Applicants respectfully traverse the rejection.

Applicants assert that the claim structure is not obvious in light of the reference. The reference requires a first layer comprising a finish coat, preferably a gel coat. See the description of the "plastic surface finish coat" in the reference at column 2, lines 17-41. Gel coats used in the industry are spray-on typically curable thermosetting urethane or epoxy materials. The gel coat is not typically thermoplastic. The El Bouhnini et al. reference does teach that the material can be an acrylic, an ABS or other resin. This suggestion is all in the context of a gel coat exterior finish. This curable gel coat type, Applicants assert, is the cause of the problem in the art that is overcome by the structure of the invention. See paragraph [0004] of the published application McCollum et al., U.S. Patent Publication No. 2004/0146714 A1. This portion of the application and other portions clearly point out that the use of a gel coat in such structures causes significant problems including cracking, delamination, fading and others.

In order to remedy such a problem, Applicant's structure contains a thermoplastic polymer acrylic film as the exterior layer. The film is disclosed by Applicant's publication at page 4, paragraph [0031]. This portion indicates that the exterior is not a gel coat, but is a sheet or layer of thermoplastic acrylic film with a thickness of up to about 2.5 millimeter used with the adjacent ABS acrylic alloy film.

We do not believe there is any logical relationship between a curable thermosetting gel coat layer and the claimed exterior thermoplastic layer. Gel coat layers are typically sprayed on from a gelled suspension of urethane or epoxy in a liquid matrix. Once dry, the gel coat cures and adheres to the molded structure. After the molding process is completed the gel coat is transferred from the mold top the article and becomes the exterior layer of the molded article. Substituting a thermoplastic acrylic for the thermosetting gel coat in the structure of the invention or in the methods of molding the structural units of the invention is not obvious due to the substantial differences between a thermoset and a thermoplastic.

Even if the art suggests this exterior layer, the art does not suggest the balance of the claims structure. After the exterior "surface finish coat", the next layers in order in the El Bouhnini et al. reference structure are all fiber reinforced, non-thermoplastic layers. These layers include a fiber reinforced resin layer, a fibrous bonding layer and a fiberglass reinforced gypsum. Applicant's claims require three thermoplastic layers that are not cured layers and do

not recite fiber reinforcement. Further the reference shows a fiber reinforced gypsum material not a fiber reinforced thermoset component.

A gypsum based material teaches away from the claimed structure. Applicants assert that the claimed layered structure uses a different fiber reinforced layer. A brief review of the reference shows that the reference requires a fiber reinforced polyester or epoxy in combination bonded to a fiber glassed reinforced gypsum. Applicant's amended claims clearly indicate that there is a single fiberglass reinforced thermoset layer and not two layers. This layer is uniquely different than the gypsum containing layer which is clearly adapted for housing installation but is not required by Applicant's invention. Further, it is not obvious to replace the combination of the fiberglass reinforced resin combination with the fiberglass reinforced gypsum with a single fiber reinforced resinous layer since the reinforced gypsum layers are a required component of the disclosed invention.

In paragraph 9, Examiner asserts:

The reference discloses that the first layer is an exterior layer and comprised of acrylic and has a thickness of from about 15 to 25 mil (column 2, lines 15-35). Additionally, the reference discloses a second layer comprising an acrylic (see column 2, lines 41-55). It is disclosed in column 5; lines 59-68 that the third layer comprises an organic resin. The fourth layer in the reference is disclosed as a fiber-reinforced layer wherein the reinforcing fibers are glass fibers (see column 6, lines 30-43). It is disclosed in column 5, lines 40-41 that polyurethane can be used in the reinforcing layer. The reference does not disclose that the use of an acrylic for the third layer. However, the reference does disclose that the third layer is an organic resin.

First, the Examiner should note that the amendment avoids this structure. The reference suggests that the first layer is a gel coat described in the portion at column 2, lines 15-35. The El Bouhnini et al. portion (See columns 2 and 5) does not describe either the second layer or the third layer of a thermoplastic material as claimed. Applicants assert that the reference does not show a second or third thermoplastic layer as that term is used in the claims. Applicants acknowledge that curable polyurethane can be used in the reinforcing layers since in this application it is a thermosetting material.

Examiner has also rejected claim 37-41 under 35 U.S.C. § 103(a) over El Bouhnini et al., and Domine et al., U.S. Patent Publication No. 2004/0161623. Applicants respectfully traverse the rejection.

Applicants have clearly demonstrated that the El Bouhnini reference does not teach the article of Applicant's claims. The Examiner cites the Domine reference to indicate that the claimed four-layer structure can be used as a boat composite or shaped article. The Domine reference does not cure the failure of the El Bouhnini et al. to disclose the invention. The Domine relates to a layered structure with a thermoplastic ionomer layer on a thermoplastic substrate with one or more other useful layers and a tie layer. See, paragraphs [0022 and 0059-0064] of the Domine publication.

This reference is not combinable with the El Bouhnini et al. reference. El Bouhnini et al. is limited to a largely fiber reinforced resin/gypsum materials while the Domine technology is multi-layers of thermoplastic materials. Even if combined, the resulting structure is different than the claimed structure since the resulting structure has two layers of a fiber reinforced resin/gypsum material.

Applicants have also amended claims 37-41 to indicate that the member is a structural component such as a motor vehicle hood, door, trunk, lid or tunnel cover. The structure disclosed in the Domine reference is substantially decorative and nonstructural. The primary properties obtained by the structure is that they are impact and scratch resistant. These components obtain their structural integrity through other components when installed and in use and do not have substantial structural integrity of their own. This is particularly true since it is simply another thick film. This is further exemplified at page 10, paragraph [0107] which shows that the final thickness of the overall shaped laminate ranges up to 7.4 mm microns in the typical structure.

With a range of thicknesses ranges from about 1 to about 7 millimeters and in the absence of a fiber reinforced layer, the Domine material will not have significant structural integrity to be useful in Applicant's utility.

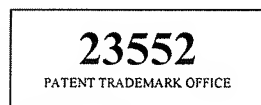
Applicants assert that while this reference suggests that a thin nonstructural layer can be used in the claimed applications that the material is not a structural member. Further, the wholly

thermoplastic structure of Domine is so different than the glass fiber reinforced structure member of El Bouhnini, one of ordinary skill in the art would not substitute or modify the primary reference with the teaches of the secondary reference. As such, the skilled artisan would not use the El Bouhnini structures in the applications of Domine.

In view of the above amendments and remarks, Applicants have rendered all claims allowable, and respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

Dated: 11 July, 2007



A handwritten signature in dark ink, appearing to read "Mark DiPietro". The signature is written in a cursive style and is positioned above a horizontal line.

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